

REMARKS

Claims 1-14 are pending. Claims 9, 11, 13, and 14 have been amended for clarity. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

In the Drawings and the Specification

The specification and drawings were objected to. As indicated by the attached "marked-up" version of drawings, Applicants have amended Figure 2 in accordance with the Examiner's suggestions. Additionally, Applicants have amended the specification to correct the grammatical errors as required. No new matter has been added by these amendments. Accordingly, Applicants respectfully submit that these objections are moot.

Applicants submit herewith replacement formal drawings for Figure 2.

Claim Rejections Under 35 U.S.C. § 112

Claims 9-14 were rejected under 35 U.S.C. § 112, second paragraph for containing various informalities. Applicants have amended the claims to correct these informalities. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 2, and 5 were rejected under 35 U.S.C. § 102(b) over Lee et al. (U.S. Patent No. 5,822,360). Applicants respectfully traverse this rejection.

Claim 1 recites, in part, an apparatus for embedding a watermark into an original audio signal that includes a residual signal output means for outputting a residual signal of a delayed original audio signal by filtering the delayed original audio signal using the prediction coefficient generated from the linear prediction analysis means. The Office Action, on page 5, alleges that this feature is disclosed by Lee. Applicants respectfully disagree.

Lee describes a method for adding colored noise instead of white noise to a signal by adjusting the gain of individual spread spectrum signals and the power of the colored noise. Specifically, Lee merely discloses spectrally shaping a PN modulated signal (column 10, lines 10-18). Further, as discussed in the background of the present invention, the spread spectrum method, as disclosed in Lee, is disadvantageous because of the pseudonoise sequence. Accordingly, Lee does not teach, or even suggest, an apparatus for embedding a watermark into an original audio signal that includes a residual signal output means for outputting a residual signal of a delayed original audio signal by filtering the delayed original

audio signal using the prediction coefficient generated from the linear prediction analysis means, as recited in claim 1.

Claims 2 and 5 are believed allowable for at least the same reasons presented above with respect to claim 1 by virtue of their dependence upon claim 1. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim Rejections Under 35 U.S.C. § 103

A. Claims 3, 4, and 6-8 were rejected under 35 U.S.C. § 103(a) over Lee in view of Hannigan et al. (U.S. Patent No. 6,674,876). Applicants respectfully traverse this rejection.

Claim 8 is believed allowable for at least the same reasons presented above with respect to claim 1 at least because claim 8 also recites the use of a delayed original signal which as discussed above is neither taught nor suggested by Lee and because Hannigan does not remedy at least this deficiency of Lee.

Claims 3, 4, 6, and 7 are believed allowable for at least the reasons presented above with respect to claim 1 by virtue of their dependence upon claim 1 and because Hannigan does not remedy at least the deficiencies of Lee discussed above.

Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

B. Claims 9-14 were rejected under 35 U.S.C. § 103(a) over Hannigan in view of Hayashi et al. (U.S. Patent No. 6,434,253). Applicants respectfully traverse this rejection.

Claims 9 and 14 each relate to a method or apparatus for detecting a watermark using a residual or echo signal of a delayed original audio signal. As discussed above, Hannigan is silent regarding the use of a delayed original audio signal. Hayashi is also silent regarding the use of a delayed audio signal. Therefore, Hayashi does not remedy at least this deficiency of Hannigan.

Claims 10-13 are believed allowable for at least the same reasons presented above with respect to claim 9 by virtue of their dependence upon claim 9.

Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

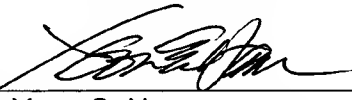
Conclusion

Therefore, all objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

Respectfully submitted,

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In the Drawings

Figure 2 has been amended to more clearly illustrate that the residual signal from 103 is input into filter 104 as described in the specification. For the Examiner's convenience, a "Marked-Up" version of Figure 2 is attached, showing the changes that were made in red ink. Applicants also submit herewith replacement formal drawings for Figure 2.

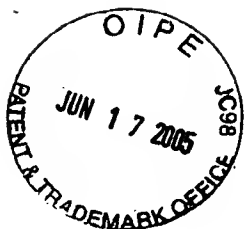


FIG. 2

